NON-PUBLIC?: N
ACCESSION #: 8903210146
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Beaver Valley Power Station Unit PAGE: 1 of 3

DOCKET NUMBER: 05000334

TITLE: Reactor Trip Due to Feedwater Regulating Valve Malfunction
EVENT DATE: 02/13/89 LER #: 89-002-00 REPORT DATE: 03/14/89

OPERATING MODE: POWER LEVEL: 090

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: T. P. Noonan, Plant Manager TELEPHONE: 412-643-1258

COMPONENT FAILURE DESCRIPTION:
CAUSE: X SYSTEM: SJ COMPONENT: TD MANUFACTURER:F130
REPORTABLE TO NPRDS: N

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

On 2/13/89, the "C" Main Feedwater Regulating Valve (MFRV) stroked partially closed during Power Operation. This resulted in a Feedwater Flow/Steam Flow Mismatch. Operators, unsuccessfully attempted to manually reopen the valve. "C" Steam Generator level decreased to its Low Level setpoint causing a Reactor Trip due to Feed/Steam flow mismatch , coincident with the Low Level. Auxiliary Feedwater actuated and, restored level in the "C" Steam Generator. Operators stabilized , the plant using the Reactor Trip Response procedure. Investigation determined that the "C" MFRV elector-pneumatic transducer had failed, preventing the valve from opening beyond 25%. The transducers on all three MFRVs were changed out. The station is revising its Preventive Maintenance program to periodically change out these transducers. There were no safety implications due to this event. This event is bounded by UFSAR Safety Analysis, "Loss of Normal Feedwater", Section 14.1.8.

END OF ABSTRACT

Description of Event

On 2/13/89, the station was in operational Mode 1, with Reactor Power being maintained at a steady 90%. At 2124 hours, the "C" Steam Generator Feedwater Flow/Steam Flow Mismatch alarm came in. The Plant Operator observed indication of decreased Feedwater flow for the "C" Steam Generator and attempted to increase flow by manually opening the "C" Steam Generator Main Feedwater Regulator Valve (MFRV). The valve failed to respond. The "C" Steam Generator level decreased to its Low Level Setpoint. At 2125 Hours, a Reactor Trip due to Low Steam Generator Level coincident with Feedwater Flow/Steam Flow Mismatch occurred. This generated Turbine Trip and Main Generator Trip signals. After the Main Generator had tripped, Station loads automatically transferred to their off-site power supply. The Auxiliary Feedwater System actuated and began injecting Auxiliary Feedwater into all three Steam Generators. Operators stabilized the plant using the Reactor Trip Response Procedure. Operators secured the Auxiliary Feedwater System injection after restoring all three Steam Generator levels to within their normal operating bands.

Cause of Event

This event was initiated by the "C" MFRV partially closing. Investigation determined that the valve closed due to a failure of its elector-pneumatic transducer (Fisher Controls type 54 6) . The transducer's Restriction Plug Orifice was found to have been clogged, preventing the transducer from supplying the valve actuator with full air pressure. This caused the valve to stroke to a 25% open position (the valve is normally 45% open when the station is at 90% power). The reduced Feedwater Flow to the "C" Steam Generator caused its level to decrease, resulting in a Reactor Trip. Review of station records identified no previous similar events.

Corrective Actions

The elector-pneumatic transducers for all three MFRV's were replaced. The station is revising its Preventive Maintenance program to periodically change out these transducers.

Safety Analysis

There were no safety implications due to this event. The following ESF and Control system actuations all occurred at their design setpoints:

a. Reactor Trip due to Feedwater Flow/Steam Flow Mismatch with Low Steam Generator Level
b. Turbine Trip due to Reactor Trip

c. Auxiliary Feedwater Actuation
d. main Generator Trip
e. Automatic Transfer to Offsite Power

This event was bounded by Beaver Valley UFSAR Safety Analysis "Loss of Normal Feedwater", Section 14.1.8.

ATTACHMENT 1 TO 8903210146 PAGE 1 OF 2

DUQUESNE LIGHT Telephone (412) 393-6000
Nuclear Group
P.O. Box 4
Shippingport, PA 15077-0004

ND3SPM:0424
March 14, 1989

Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
LER 89-002-00

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

In accordance with Appendix A, Beaver Valley Technical Specifications, the following Licensee Event Report is submitted:

LER 89-002-00, 10 CRF 50.73.a.2.iv, "Reactor Trip Due to Feedwater Regulating Valve Malfunction".

Very truly yours,

T. P. Noonan.
Plant Manager

vhy
Attachment

ATTACHMENT 1 TO 8903210146 PAGE 2 OF 2

cc: Mr. William T. Russell
Regional Administrator
United States Nuclear Regulatory Commission
Region 1
475 Allendale Rd.
King of Prussia, PA 19406

C. A. Roteck, Ohio Edison

Mr. Peter Tam, BVPS Licensing Project Manager,
United States Nuclear Regulatory Commission
Washington, DC 20555
J. Beall, Nuclear Regulatory Commission,
BVPS Senior Resident Inspector

Mr. Alex Timme, CAPCO Nuclear Projects Coordinator
Toledo Edison

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
Atlanta, GA 30339

G. E. Muckle, Factory Mutual Engineering, Pittsburgh

Mr. J. N. Steinmetz, Operating Plant Projects Manager
Mid Atlantic Area
Westinghouse Electric corporation
Energy Systems Service Division
Box 355
Pittsburgh, PA 15230

American Nuclear Insurers
c/o Dottie Sherman, ANI Library
The Exchange Suite 245
270 Farmington Avenue
Farmington, CT 06032

Mr. Richard Janati
Department of Environmental Resources
P. O. Box 2063 16th Floor, Fulton Building
Harrisburg, PA 17120

Director, Safety Evaluation & Control
virginia Electric & Power Co.

P.O. Box 26666
One James River Plaza
Richmond, VA 23261

*** END OF DOCUMENT ***